Gilding the Lilies: Rainbow Roses and Confetti Poinsettia

António A. Monteiro, Roberto Lopez and Jules Janick

RAINBOW ROSES

The colorful roses known as Rainbow Roses shown on the cover of this issue of *Chronica Horticulturae* and in Fig. 1 were displayed in several booths of Hortifair, a large flower show held in Amsterdam, The Netherlands on October 9-12, 2007. Visitors were awestruck by the spectacular color combination and many could not explain how they were achieved.

Staining roses with dyes is a common practice to obtain flower colors that are not available in nature, as in the case of blue roses, the most common and first color to be used. However Rainbow Roses are most unusual because the petals of the same flower display various colors. Combinations include "Ocean" roses with blue and yellow petals, and "Tropical" roses with yellow, orange and red petals.

The technique for producing Rainbow Roses was developed by Peter van de Werken from River Roses®, a flower company located in Holland. It is an elegant application of basic knowledge of plant anatomy. However, the practical use of the method requires specific know-how in order to get an even distribution of the dye over the petal surface, avoiding color stains or the accumulation of the dye in the petal margins.

The different colors between petals are a consequence of phyllotaxy e.g. the form by which leaves (or nodes in general) are arranged on the stem. In the case of roses the leaves are arranged in a five-ranked spiral, which means that when an imaginary line connects the various leaves a spiral is formed so that after two full rotations leaf number 6 is on the same vertical plan as leaf number 1. Petals are modified leaves and follow the same arrangement.

To obtain a flower with petals stained in different colors the stem is vertically cut into four equal parts and each quarter dipped in a different dye. The dye moves upwards through the xylem to the petals, which get a different color depending on their position in the spiral.

CONFETTI POINSETTIAS

The Confetti Poinsettia pictured in Fig. 2, was externally dyed. Over the past three years, the Fred C. Gloeckner and Co. has revived the poinsettia market in the United States with its Fantasy Colors™ dyes and glitters. A combination of colors can be applied to poinsettia bracts by using a dropper or flexible plastic bottle with an extremely small opening from approximately 1 m from above the plant to

Figure 1. Rainbow Roses.

Figure 2. Confetti Poinsettia.

create a confetti splashing effect. Wholesale and retail growers can now add value from U.S. $2.00 to $7.00 depending on what segment of the market you are participating, to a floriculture crop that had become commoditized and a promotional item for national retailers. While the poinsettia is considered a Christmas potted flowering plant, with the array of available colors and effects, retailers can market other holidays and events throughout the year. According to Andrew Lee, Vice President of Sales and Marketing with Gloeckner, the painted poinsettia concept is most compelling to the 15 to 45 age group. Ten dyes, 18 glitter colors, and various shimmer powders plus your imagination can give a poinsettia crop an extreme makeover!

GILDING THE LILY?

Some argue that dyed flowers are bizarre and unnatural and should not be used to replace natural colors. At least William Shakespeare thought so:

To gild refined gold, to paint the lily,
To throw a perfume on the violet,
To smooth the ice, or add another hue
Unto the rainbow, ...
Is wasteful and ridiculous excess...

(King John IV, 2)

Others equally passionate say that artificial coloring creates new opportunities for decoration using natural flowers. However, proponents and adversaries of this process both agree on the importance and enjoyment of cut flowers and potted plants. Clearly, creating diversity must be considered a strength of horticultural science.

About the Authors

António A. Monteiro

Roberto Lopez

Jules Janick

Dr. António A. Monteiro, Professor of Horticulture at the Instituto Superior de Agronomia, Technical University of Lisbon, Portugal, is the Co-President of the International Horticultural Congress to be held in Lisbon, 2010, Portugal. Email: amonteiro@isa.utl.pt

Dr. Roberto Lopez is Assistant Professor of Horticulture and Floriculture Extension Specialist at the Department of Horticulture and Landscape Architecture, Purdue University, West Lafayette, Indiana, USA. Email: rglopez@purdue.edu

Dr. Jules Janick is the James Troop Distinguished Professor of Horticulture at Purdue University and is a former Editor and President of the American Society for Horticultural Science. He currently serves as Director of ISHS Publications and is Science Editor of *Chronica Horticulturae*. Email: janick@purdue.edu